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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,703	10/23/2001	Minghua Chen	TRANDIM.006A	2516

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EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,703

Applicant(s)

CHEN ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17,22-24,27-35,37-44 and 53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33-44 and 53 is/are allowed.
- 6) ☒ Claim(s) 1-17,22-24 and 27-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/2/2006 has been entered.

Response to Arguments

2. This Office action is in response to applicant's paper filed 8/2/2006. **Claims 1-17, 22-24, 27-35, 37-44 and 53** as amended are still in consideration for this application. Applicant has added claims 53.

3. Examiner **withdraws** the anticipated rejections to *Sugar et al.* and *Nevo et al.* and corresponding obviousness rejections based on applicant's claim amendment. As such, please see a new rejection as necessitated by applicant's claim amendment. In particular, the examiner would like to further point out that how e.g., the first transmission is moderated based on the attributes *of the second transmission* (e.g., moderating the first transmission *of a first protocol* in response to determining that the second current quality of service *for the second protocol* is not within an acceptable quality of service range) is not further recited in independent claims 1 and 17 (i.e., see difference in allowable subject matter in claims 33 and 53). As such, the examiner notes a reasonable but broad interpretation of the claims in view of applicant's specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2002/0061031 A1 to *Sugar et al.* ("*Sugar*") in view of U.S. Patent No. 6,278,693 B1 A to *Aldred et al.* ("*Aldred*").

As such to **claim 1**, *Sugar* discloses applicant's coordination point 117 as multi-protocol device MPD 12. As such, the MPD 12 acquires transmission characteristics for the transmission of a first protocol and the transmission of a second wireless protocol with respect to Additional Collision Avoidance Techniques starting e.g., at page 5. In particular, the MPD 12 monitors WLAN traffic metrics (i.e., transmission characteristics) used to arbitrate WLAN access between different protocols, see e.g., paragraphs 0062 and 0064. Specifically, in order for arbitration to take place, the MPD must be aware of the two or more protocols that the MPD will arbitrate. Thus, with respect to analyzing the transmissions characteristics for the transmission of the first protocol and the transmission of the second protocol and moderating the transmission characteristics to determine an imminent collision between the transmission of the first protocol and the transmission of the second protocol, the MPD monitors and then arbitrates the protocols based on the received traffic metrics. In particular, the above is done in order to provide similar configurations of the CSMA parameters (for each protocol) such as packet

duration, guard time, and back-off time *Sugar* further teaches guaranteeing QoS for both Bluetooth and 802.11 data using priority, see e.g., paragraph 0084 on page 7.

Sugar may be silent or deficient to the further limitation prioritizing transmission of the first and second transmissions so as to maintain each of the first and second transmission within their respective desired service levels, *wherein the prioritizing is based at least partly on a determination as to whether the determined quality of service of the second transmission is within the second quality of service range*. In particular, *Sugar* teaches at paragraph 0054 that choice of which LAN to transmit may be determined by establishing a priority for different WLAN networks or for the type of data or channel that is to be carried on the WLAN. *Sugar* further teaches using “metrics” to monitor WLAN activity, see e.g., paragraphs 0062-0063 on page 5 and further teaches prioritization of traffic at e.g., paragraphs 0084 and 0089 on page 7 but may not expressly teach that the determined QoS is within a second quality of service range.

Aldred teaches the further recited limitation above at e.g., bottom of column 4 and top of column 5. In addition, *Aldred* further teaches monitoring the current quality of service, see e.g., column 11, lines 43-55.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Sugar* by clarifying that it is well known in the art prior to applicant’s invention to prioritize transmissions based at least partly on a determination as to whether the determined current quality of service is within the a quality of service range.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to ensure the quality of service for a connection.

As to **claim 2**, with respect to ordering of packets see monitoring the BER with respect to acknowledgements where acknowledgments determining the ordering of packets, see e.g., paragraph 0059. In addition, since timing information is obtained, the packets are also ordered, see e.g., paragraph 0063 on page 5.

As to **claim 3**, the MPD time aligns the protocols, see e.g., paragraph 0063 on page 5 and paragraph 0017 on page 10 with respect to timing.

As to **claim 4**, since frequency hopping is a consideration with interference, the MPD tracks the frequency that the packet is being transmitted, received on, see e.g., figures 17a and 17b, paragraph 0099 on page 9 and paragraph 0117 on page 10.

As to **claim 5**, the MPD monitors the channels where the channel is used to send the data, see e.g., paragraph 0044 on page 3.

As to **claims 6-7**, with respect to FHSS see e.g., paragraph 0042 on page 3 and paragraph 0066 on page 6 where Bluetooth uses FHSS.

As to **claims 8-9**, with respect to DSSS see e.g., paragraph 0042 on page 3 and paragraph 0066 on page 6 where 802.11 uses DSSS.

As to **claim 10**, with respect to overlapping see e.g., paragraph 0049 on page 4.

As to **claims 11-12**, with respect to fixed frequency and alternating frequencies, see e.g., paragraph 0066 on page 6 where Bluetooth uses alternating-frequencies and 802.11 uses fixed frequencies.

As to **claims 13-14**, with respect to quality of services, see e.g., paragraphs 0054 on page 4, and paragraph 0089 on page 7.

As to **claims 15-16**, with respect to an acceptable range, see e.g., monitoring error rates where the service level is reflected by the error rate at e.g., paragraph 0059 on page 5. Examples include but are not limited to e.g., paragraphs 0084 on page 7, paragraph 0094 on page 8, and paragraph 0105 on page 9.

As to **claim 17**, see similar rejection to claim 1.

As to **claim 18**, see similar rejection to claim 2.

As to **claim 19**, see similar rejection to claim 3.

As to **claim 20**, see similar rejection to claim 4.

As to **claim 21**, see similar rejection to claim 5.

As to **claim 22**, see similar rejection to claim 6.

As to **claim 23**, see similar rejection to claim 8.

As to **claim 24**, see similar rejection to claim 10.

As to **claim 25**, see similar rejection to claim 11.

As to **claim 26**, see similar rejection to claim 13.

As to **claim 27**, with respect to voice and data, see e.g., paragraph 0054 on page 4.

As to **claim 28-29**, see similar rejection to claim 13.

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6. **Claims 1, 3-17, and 19-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2005/0078616 A1 to *Nevo et al.* (“*Nevo*”) in view of U.S. Patent No. 6,278,693 B1 A to *Aldred et al.* (“*Aldred*”).

As such to **claim 1**, see e.g., figure 1 of *Nevo* with respect to a first protocol A and a second protocol B. The control managers 106a and 106b further acquire transmission characteristics with respect to the first and second wireless protocol. The control managers further analyze the transmission characteristics to determine an imminent collision between the first and second protocols, see e.g., paragraphs 0053 and 0054 on page 5. Finally, *Nevo* further teaches first and second priority and maintaining quality of service with respect to prioritizing transmission of the first and second transmissions so as to maintain each of the first and second transmissions within their respective desired service levels, wherein the prioritizing is based at least partly on priorities and the current quality of service associated with the first and second transmission at e.g., paragraphs 0065-0067 on page 6.

Nevo may be silent or deficient to the further limitation prioritizing transmission of the first and second transmissions so as to maintain each of the first and second transmission within their respective desired service levels, *wherein the prioritizing is based at least partly on a determination as to whether the determined quality of service of the second transmission is within the second quality of service range.* In particular, *Nevo* teaches at achieving QoS at e.g., paragraph 0065 – 0068 on page 6 but may not expressly teach that the determined QoS is within a second quality of service range.

Aldred teaches the further recited limitation above at e.g., bottom of column 4 and top of column 5. In addition, *Aldred* further teaches monitoring the current quality of service, see e.g., column 11, lines 43-55.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Nevo* by clarifying that it is well known in the art prior to applicant's invention to prioritize transmissions based at least partly on a determination as to whether the determined current quality of service is within the a quality of service range.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to ensure the quality of service for a connection.

As to **claim 3**, see e.g., paragraph 0051 on page 5 with respect to timing sharing.

As to **claims 4-5**, see e.g., paragraph 0047 on page 4 with respect to using a frequency or channel.

As to **claims 6-7**, see e.g., paragraph 0047 on page 4 with respect to using Bluetooth which uses FHSS.

As to **claims 8-9** see e.g., paragraph 0047 on page 4 with respect to using 802.11 which uses DSSS. See also paragraph 004 on page 1 and claim 3.

As to **claim 10**, see e.g., paragraphs 0052 and paragraph 0057 on page 5 where the wireless device 100 coordinates operation by adjusting timing.

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As to **claims 11-12**, Bluetooth is alternating frequency and 802.11 is fixed, see e.g., paragraph 0047 on page 4.

As to **claim 13**, see e.g., paragraph 0065 with respect to QoS.

As to **claims 14-16**, see e.g., paragraphs 0067 and –68 on page 6 with respect to comparing priorities to thresholds.

As to **claim 17**, see similar rejection to claim 1.

As to **claim 19**, see similar rejection to claim 3.

As to **claim 20**, see similar rejection to claim 4.

As to **claim 21**, see similar rejection to claim 5.

As to **claim 22**, see similar rejection to claim 6.

As to **claim 23**, see similar rejection to claim 8.

As to **claim 24**, see similar rejection to claim 10.

As to **claim 25**, see similar rejection to claim 11.

As to **claim 26**, see similar rejection to claim 13.

As to **claim 27**, with respect to types of traffic, see e.g., paragraph 0066 on page 6.

As to **claim 28-29**, see similar rejection to claim 13.

As to **claim 30**, with respect to packet loss rates, see e.g., paragraph 0068 on page 6.

7. **Claims 30-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2002/0061031 A1 to *Sugar et al.* (“*Sugar*”) in view of U.S. Patent No. 6,278,693 B1

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A to *Aldred et al.* (“*Aldred*”) and in further view of U.S. Patent No. 6,405,257 B1 to *Gersht et al.* (“*Gersht*”).

As such to **claims 30-32**, *Sugar* discloses supporting QoS, see e.g., paragraph 0054 on page 4 and paragraph 0089 on page 7.

Sugar is silent or deficient to the further limitation of maintaining specific quality statistics which includes packet loss rate, packet delays and throughput as further recited in the claims.

Gersht teaches the further recited limitation above at e.g., column 5, lines 5-20.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Sugar* by clarifying that quality service parameters are well known in the art and such parameters include packet loss rate, packet delays and throughput as is further known in the art.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to control congestion. In particular, *Gersht* cures the above-cited deficiency by providing a motivation found at e.g., column 5, line 5-20.

Allowable Subject Matter

8. **Claims 33-44 and 53** are allowed.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

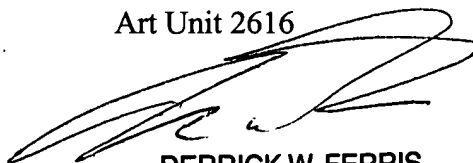
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571)272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DWF

Derrick W. Ferris
Examiner
Art Unit 2616



DERRICK W. FERRIS
PRIMARY PATENT EXAMINER